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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION X
1200 Sixth Avenue
Seattle, Washington 98101

IN THE MATTER OF:	
Environmental Protection Agency, Complainant, v. Pacific Wood Treating Corporation EPA ID. No. WAD0098036906 Respondent.	RCRA Docket 1085-09-26-3008P AFFIDAVIT OF MARK MOOTHART

Mark Moothart, having been duly sworn on oath, does depose and say:

1. I am President of Pacific Wood Treating Corporation, 111 West Division Street, Ridgefield, Washington 98642 (PWT). I have held this position since March 1, 1986. Previously, I was General Manager of PWT from 1974 to March 1, 1986.

2. PWT operates a complete pole yard, a wood fabrication plant, and a wood preserving facility on Lake River in the town of Ridgefield, Washington. This facility has been in operation since 1964. Wood treatment activities at the PWT plant include the application of creosote, pentachlorophenol (Penta) and copper chrome arsenic (CCA) as wood preservatives. Wood products are pressure-treated by using heat and vacuum to remove water from the wood and by using heat and pressure to inject preservatives into the wood. In other words, pressure treating is the process of removing the natural moisture in wood and replacing it with a preservative thereby extending the life of the wood 10 to 30 years over untreated wood.

The wood preserving processes create a waste stream that consists of water, wood sugars, etc., removed from the timber and process liquid containing preservatives. The waste stream is pumped to oil/water separators where recovered wood preservative chemicals are returned to the process for re-use. Wastewater from the separators is treated and filtered to remove solids. Bottom sediment sludge from the wastewater treatment system and boiler blowdown water were collected and pumped to the woodwaste power boiler for incineration. The sludge was sprayed onto the woodwaste fuel just before entering the boiler combustion chamber. Treated scrap wood also was burned in the boiler.

3. During the energy crisis of the early 1970's, PWT designed and constructed a Waste Wood Boiler Plant to burn wood wastes and hogged fuel generated in the Ridgefield plant, and hogged wood fuel from our St. Helens pole peeling plant, in place of oil or natural gas. The design of the Waste Wood Boiler Plant was submitted to the Washington Department of Ecology (DOE). EPA representatives participated in the development project. Rapidly increasing costs of preservatives and the energy crisis dictated the design of a system which utilized our waste wood and (utilization of) the bottom sludge which has a high BTU content, to supply our energy needs.

Preliminary design of the boiler plant began in 1974, prompted by the energy crisis of that period. Included in the design was the utilization of the creosote and penta sludge which has a high BTU content and could further reduce energy costs if we were allowed to burn them in the system that was designed for it. At the

same time, a waste water treatment process utilizing ultrafiltration and reverse osmosis filtration was designed and installed in the boiler plant to recover usable water from waste water. The recovered water was to be used for boiler-cooling water. The sludge from this process was then burned with the wood waste.

In other words, the system was designed to burn waste wood from our wood fabrication facility, the bark and pole ends from our pole yard, and the high BTU content of the sludge from the treating process, simultaneously incinerating the contaminated waste water that resulted from separating oil, etc., from the waste water treatment system that recovered usable water for our boilers. It was and is an ideal system.

On June 17, 1977, EPA awarded PWT with a Demonstration Grant No. S80517901-0 titled "Wood Treating Waste Recycle System" calling for evaluation of control technology for toxic wastes from a wood preserving plant and removal efficiencies for creosote, penta, arsenic and other compounds. A copy of this Grant Agreement is attached (Exhibit #1). Please note that the Grant specifically states that "contaminated sludge will be disposed of by incineration". The Grant application was distributed to all regulating agencies (Federal, State, County and City). An environmental impack statement was included.

In addition, from 1978 through 1980, we cooperated with the EPA and its contractors (E.C. Jordan Co. of Portland, Maine, contract 68-03-2605; Acurex Corporation of Mountain View, California, contract 68-03-2567) in making detailed studies at our Ridgefield plant and the chemical make-up of our waste water and, in the Acurex project, the "characterization of discharges from the disposal

of wood preserving wastes in an industrial boiler" (Exhibit #2).

4. Among the wastes generated by the wood preserving process is a sludge. This sludge consists of solids and liquids from a number of sources:

a. Bottom sludge from the retorts, a mixture of sawdust, broken stickers and creosote, penta mixed with oil, and CCA.

b. Sludge from treatment of the water removed from the wood in the treating process which contains wood sugars, phenol, etc., that are found in all untreated wood.

c. Residue from the boiler blowdown water.

Until 1980, this bottom sediment sludge was not known to be a hazardous waste. However, when EPA published its list of hazardous wastes, bottom sediment sludge from the treatment of waste waters from wood preserving processes that used creosote and/or penta was listed as hazardous waste number K001 (40CFR261).

5. The bottom sediment sludge does have high BTU value. PWT was advised it could mix the bottom sediment sludge with wood wastes to produce a suitable fuel supplement for its Waste Wood Boiler Plant. The bulk of the wastes used to make up the Waste Wood Boiler Plant fuel were materials such as wood chips, sawdust, etc. We estimate the wood preserving sludge made up less than one-half of one percent of the fuel mixture.

6. As with all such facilities, our Waste Wood Boiler Plant created an ash for which we had to find a disposal site. A few miles east of Ridgefield is an abandoned brick manufacturing facility known as Ridgefield Brick & Tile (RBT Site). Clay used in the manufacture of RBT brick was extracted from the ground at the

site. As a result, there was a large abandoned pit on the site. The bottom of the pit was filled with storm water. The pit presented a danger, particularly to children in the area, who found it an exciting place to play.

7. In 1978, Elmer Muffett, owner of the RBT site, approached PWT about the possibility of using wastes from the Ridgefield plant to fill the pit. PWT agreed to dispose of its waste wood boiler plant ash, along with yard debris, in the RBT pit. Landfilling of the ash began in 1978 and was discontinued on January 25, 1983 by order of the DOE and EPA.

8. At no time did PWT attempt to conceal the landfilling of ash. DOE and EPA representatives who were familiar with the PWT Waste Wood Boiler Plant project were aware of the disposal practice.

9. Even after the wood preserving sludge was identified as a hazardous waste, PWT continued landfilling the ash on the RBT site because we had implied, and I believe, specific approval of the DOE and the EPA for continuation of landfilling of the ash. It is terribly important that everyone realize that PWT did not landfill sludge or residue from the treating process. PWT disposed of ash from the boiler system designed to burn the sludge from the waste recovery treating process -- 1/10,000 or 1/100,000 of the sludge -- an insignificant amount under any regulation.

DOE and EPA representatives were aware the ash was being disposed of on the RBT site after 1980 and voiced no objection. Furthermore, PWT believed identification of the disposal practice in our Part A permit application notified DOE and EPA of the disposal of the ash.

10. On January 28, 1983, representatives of PWT, DOE, EPA and Batelle Columbus Labs met at Ridgefield to discuss the filing of a Part B permit application for the PWT Waste Wood Boiler Plant incinerator. This meeting was held solely to discuss the Waste Wood Boiler Plant. During the meeting, the subject of ash disposal came up.

11. On April 21, 1983, EPA requested our attendance at a meeting with DOE to be held in Olympia on April 28, 1983. PWT representatives and I attended this meeting. Also in attendance were Eric Egbers of DOE and Bob Stamnes and Michael Brown of EPA Region X. At this meeting, PWT agreed to develop closure and post-closure plans for the RBT site.

12. On May 13, 1983, PWT contracted with the consulting firm of Sweet, Edwards for a groundwater investigation at the RBT site. On June 7, 1983, we forwarded to DOE a report prepared by Sweet, Edwards entitled "Preliminary Groundwater Investigation".

13. On June 20, 1983, we received DOE Order No. 83-284 entitled "Notice of Penalty Occurred and Due" (Notice of Penalty). The Notice of Penalty required PWT to submit a groundwater monitoring plan for the RBT site by July 11, 1983, and closure and post-closure plans and a schedule of implementation by July 30, 1983.

14. On June 21, 1983, PWT contracted with Patrick H. Wicks P.E. to prepare closure and post-closure plans for the RBT site; on June 24, 1983, PWT contracted with Sweet, Edwards to provide hydrogeological consulting services in connection with preparation of the closure plan.

15. On July 6, 1983, I attended a meeting at the RBT site, at which were also present Eric Egbers of DOE and Dave Myers of Batelle Labs, who was there as a representative of EPA. Randy Sweet of Sweet, Edwards also attended the meeting. Various closure plans were discussed and agreed upon. Randy Sweet explained his hydrogeological approach to closure and groundwater monitoring. The agency representatives at this meeting approved the overall plan described by Randy Sweet and the PWT representatives.

16. On July 15, 1983, PWT submitted its closure and post-closure plans. DOE submitted written comments on the closure and post-closure plans on August 4, 1983.

17. On August 18, 1983, a meeting was held at DOE's offices in Olympia. This meeting was attended, among others, by myself, Randy Sweet, Patrick Wicks, Eric Egbers of DOE and Michael Brown of EPA. At this meeting, we reviewed all of DOE's comments on the closure and post-closure plans and agreed to changes which would be included in an addendum to the closure plan. During the course of this meeting, the question of the need for DOE to provide public notice of the closure was discussed. The DOE and EPA agreed no public notice was required. If they had gone to public notice, we would not have been able to close the site until June of 1984. Both DOE and EPA felt that closure by the end of September 1983 was most desirable.

18. On August 24, 1983, PWT submitted its addendum to the closure plan. On August 31, 1983, PWT representatives and I met with Eric Egbers of DOE to discuss final closure. At that meeting, DOE authorized closure of the site and advised DOE would confirm

approval of the closure plans by Departmental Order.

19. Between September 14, 1983 and October 16, 1983, closure of the RBT site was completed. On October 31, 1983, PWT received DOE Order No. DE 83-468 confirming formal approval of the closure and post-closure plans. On November 16, 1983, Patrick Wicks, Randy Sweet and PWT representatives inspected the RBT site prior to preparing a final certification of closure. On December 14, 1983, Eric Egbers, Randy Sweet and PWT representatives inspected the site and in accordance with the plan took samples of the ground water.

20. PWT submitted its "Report on Certification of Closure" as prepared by Patrick Wicks February 15, 1984. On June 12, 1984, EPA verified that the closure as previously approved by DOE and EPA was complete in fact and in paperwork by an onsite inspection conducted by Michael Brown and Arthur Whitson of the EPA, David Myers of Batelle Pacific Northwest Laboratories (under contract to EPA), Richard Pierce of DOE, Jim Maul of Sweet, Edwards, and PWT representatives.

On September 30, 1985, 15 months after final inspection by EPA; 23 months after closure of the facility; almost exactly 24 months after the deadline set by EPA for closure, we received from EPA a compliance order which alleged PWT was in violation for taking the very actions that both DOE and EPA had previously approved.

21. With one exception, PWT has comlied with all requirements of the DOE Notice of Penalty and October 1983 Order. The one exception is we have not been able to obtain evidence of financial assurance from our insurers. We have kept DOE apprised of our

efforts to obtain evidence of financial assurance and they have accepted our assurance we will continue to seek such financial assurance.

22. The total cost of PWT's closure of the RBT site, excluding post-closure costs and all PWT personnel costs, was $146,502. PWT was willing to undertake these expenditures and close the facility on an expedited basis because we had a very clear understanding that both DOE and EPA approved our plans. We would not have undertaken these expenditures had we known EPA did not approve our plans until we were certain we had satisfied all of EPA's objections.

Mark Moothart

SUBSCRIBED AND SWORN to before me this 22nd day of May, 1986.

Notary Public in and for the State of Washington, residing at _____

MOOTHART AFFIDAVIT EXHIBIT 1

U.S. ENVIRONMENTAL PROTECTION AGENCY
GRANT AGREEMENT/AMENDMENT

GRANT IDENTIFICATION NO.: S 8 0 5 1 7 9 0 1 0

CHECK APPLICABLE ITEM(S)

X GRANT AGREEMENT

GRANT AMENDMENT

SUBSEQUENT RELATED PROJECT (WWT)

DATE OF AWARD (Obligation date): JUN 17 1977

TYPE OF ACTION: New

PART I—GENERAL INFORMATION

1. GRANT PROGRAM	2. STATUTE REFERENCE	3. REGULATION REFERENCE
Demonstration	P.L. 92-500, Section 105	40 CFR, Parts 30 and 40

4. GRANTEE ORGANIZATION

a. NAME: Pacific Wood Treating Corporation

b. EMPLOYER I.D. NO. (EIN):

c. ADDRESS: P.O. Box 518
Ridgefield, Washington 98642

5. PROJECT MANAGER (Grantee Contact)

a. NAME: Parker V. Holden

b. TITLE: Plant Engineer

c. TELEPHONE NO. (Include Area Code): (206) 887 ~~3564~~ - 3562

d. ADDRESS: 111 W. Division
Ridgefield, Washington 98642

6. PROJECT OFFICER (EPA Contact)

a. NAME: Victor Dallons

b. TITLE: Chemical Engineer

c. TELEPHONE NO. (Include Area Code): (503) 757-4697

d. ADDRESS: Industrial Environmental Research Lab.
Invironmental Protection Agency
200 S.W. 35th Street
Corvallis, Oregon 97330

7. PROJECT TITLE AND DESCRIPTION

"Wood Treating Waste Recycle System"

Wood treating Recycle Systems evaluates advanced control technology for highly toxic wastes from a wood preserving plant. Removal efficiencies for toxic compounds: creosote, pentachlorophenal, chromium, copper, and arsenic, as well as BOD, COD, suspended solids and oils will be measured for each unit operations of the treatment sequence; filtration, ultrafiltration, and reverse osmosis. Contaminated sludges will be disposed of by incineration.

PROJECT STEP (WWT):

8. DURATION

PROJECT PERIOD (Dates)	BUDGET PERIOD (Dates)
7/15/77 - 7/14/79	7/15/77 - 7/14/79

9. DOLLAR AMOUNTS

TOTAL PROJECT COSTS	$66,942	EPA GRANT AMOUNT (In-Kind Amt. ____)	$50,000
TOTAL ELIGIBLE COSTS (WWT)		UNEXPENDED PRIOR YR. BAL. (EPA Funds)	
TOTAL BUDGET PERIOD COSTS	$66,942	THIS ACTION (This obligation amount)	$50,000

10. ACCOUNTING DATA

APPROPRIATION	DOC CONTROL NO.	ACCOUNT NO.	OBJ CLASS	AMOUNT CHARGED
687/80107	C00151	761026B2B1	41 41 41.45 41	$50,000

11. PAYMENT METHOD

X ADVANCES (10 % of award) ☐ REIMBURSEMENT

☐ OTHER

SEND PAYMENT REQUEST TO

12. PAYEE (Name and mailing address. Include ZIP Code)

Treasurer
Pacific Wood Treating Corporation
1727 N.E. 11th Avenue
Portland, Oregon 97212

(A-2)

SECTION 7

CHARACTERIZATION OF DISCHARGES FROM THE DISPOSAL OF WOOD PRESERVING WASTES IN AN INDUSTRIAL BOILER

The EPA's rules promulgated in response to the Resource Conservation and Recovery Act (RCRA) encourages generators of hazardous wastes to control their wastes within plant boundaries. One disposal option is the thermal destruction of the waste in a steam boiler. This field test program was conducted at a wood preserving facility (plant C) using a 5 kg/sec (40,000lb/hr) pile-burning watertube boiler co-firing a mixture of wood waste and penta/creosote wastewater. The program was designed to determine the destruction and removal efficiencies of the organic compounds in the wastewater. Input materials (the wood waste and sludge) and output materials (mechanical hopper ash, baghouse ash, bottom ash and stack gases) were analyzed, and pertinent data for a material balance evaluation were collected. All samples were qualitatively and semiquantitatively analyzed for organic compounds, including chlorinated phenols, chlorinated dibenzo-p-dioxins, chlorinated dibenzofurans, and polynuclear aromatic hydrocarbons (PAHs).

7.1 PROGRAM DESCRIPTION AND RESULTS

Establishing material mass flow estimates was difficult since ash and fuel flowrates were not metered by the operator. However, estimates were made of each stream, and the destruction and removal efficiencies were calculated.

7.1.1 Test Site

The wood treating facility selected for field sampling employs six retorts using a steaming process to treat a variety of domestic and imported wood products. The process can treat wood with penta, creosote, or waterborne preservative formulations. Total wood treated during the test period, July 21 through 25, was 922m^3 (32558 ft^3).

Wastewater and byproducts generated from the individual treating processes are handled by discrete oil/water separators. The recovered preservative fractions are returned to bulk preservative storage tanks for reuse in the process. Separated sludges and wastewater are routed to a storage tank; when quantity is sufficient to ensure economic handling, the wastes go to the steam boiler for disposal. The boiler is fired by waste wood that is fed as sawn slabs or chips and sawdust. The waste sludge is pumped to the chip feeder and mixed with the dry wood chips or shavings in the screw

feeder. Figure 6 presents a schematic of the plant wastewater/preservative recovery system. An estimated (23,000 to 36,000 l) 5,000 to 8,000 gal/day of wastewater is generated during normal treating operations.

The boiler, manufactured by Wellons Company, was designed to produce 5 kg/sec (40,000 lb/hr) of steam for space heat, the treating cycle steam, and other plant operations. The boiler unit, consisting of both a furnace and an additional cell, could be fired using both or fired separately, depending on plant process steam demand.

The boiler fuel supply system consisted of transfer and metering conveyors, wet and dry fuel silos, two metering bins for cell and furnace, and a constantly running screw conveyor to charge the fuel to the cell and furnace for burning. Both constant feed screw conveyors were modified to allow hog fuel to be mixed with sludge or wastewater from the treating plant. The furnace also was equipped with a ram charging device for loading irregular-shaped and oversized wood scrap into the boiler.

The unit is equipped with a multicone and two baghouses to reduce particulate emissions from the boiler. Figure 7 presents a schematic of the boiler plant including sampling locations. Figure 8 presents a photograph of the boiler plant. The plant personnel estimated that it burns 20 units/day of hog fuel during normal operation. (One unit = 200 ft^3 = 2,000 lbs dry Douglas-fir = 4,000 lbs Douglas-fir at 50 percent moisture = 16 MMBtu at 50 percent moisture.)

7.1.2 Field Test Program

The sampling program conducted included each of these tests:

- Determination of preliminary gas stream characteristics
- Isokinetic source sampling of boiler flue gas
- Total hydrocarbon determination of boiler flue gas
- Specific low-molecular-weight hydrocarbon determination of flue gas using gas chromatography (GC)
- Composite sampling of:
  - -- Boiler bottom ash
  - -- Multicone hopper ash
  - -- Sludge wastewater fuel

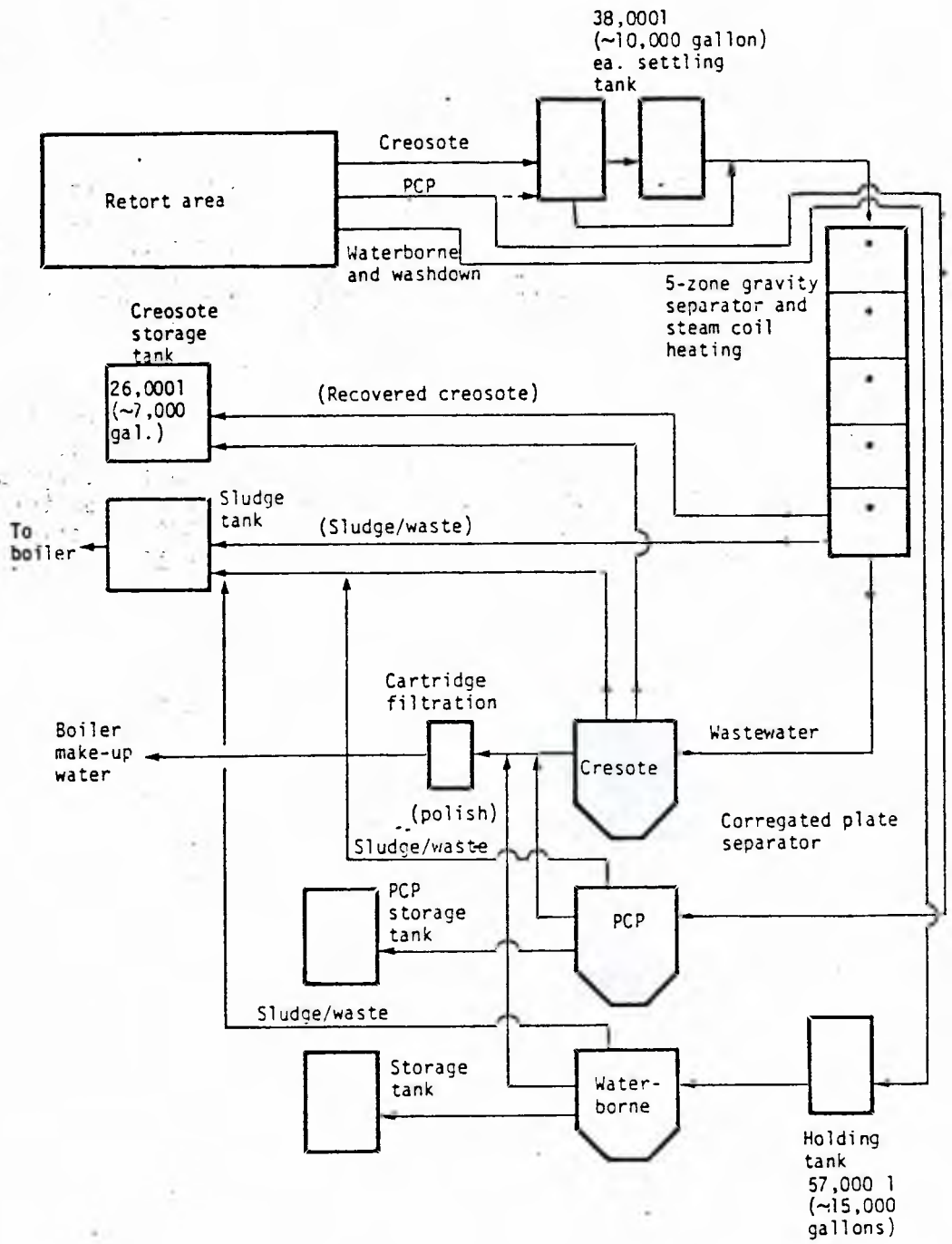

Figure 6. Schematic of plant wastewater/preservative recovery system.

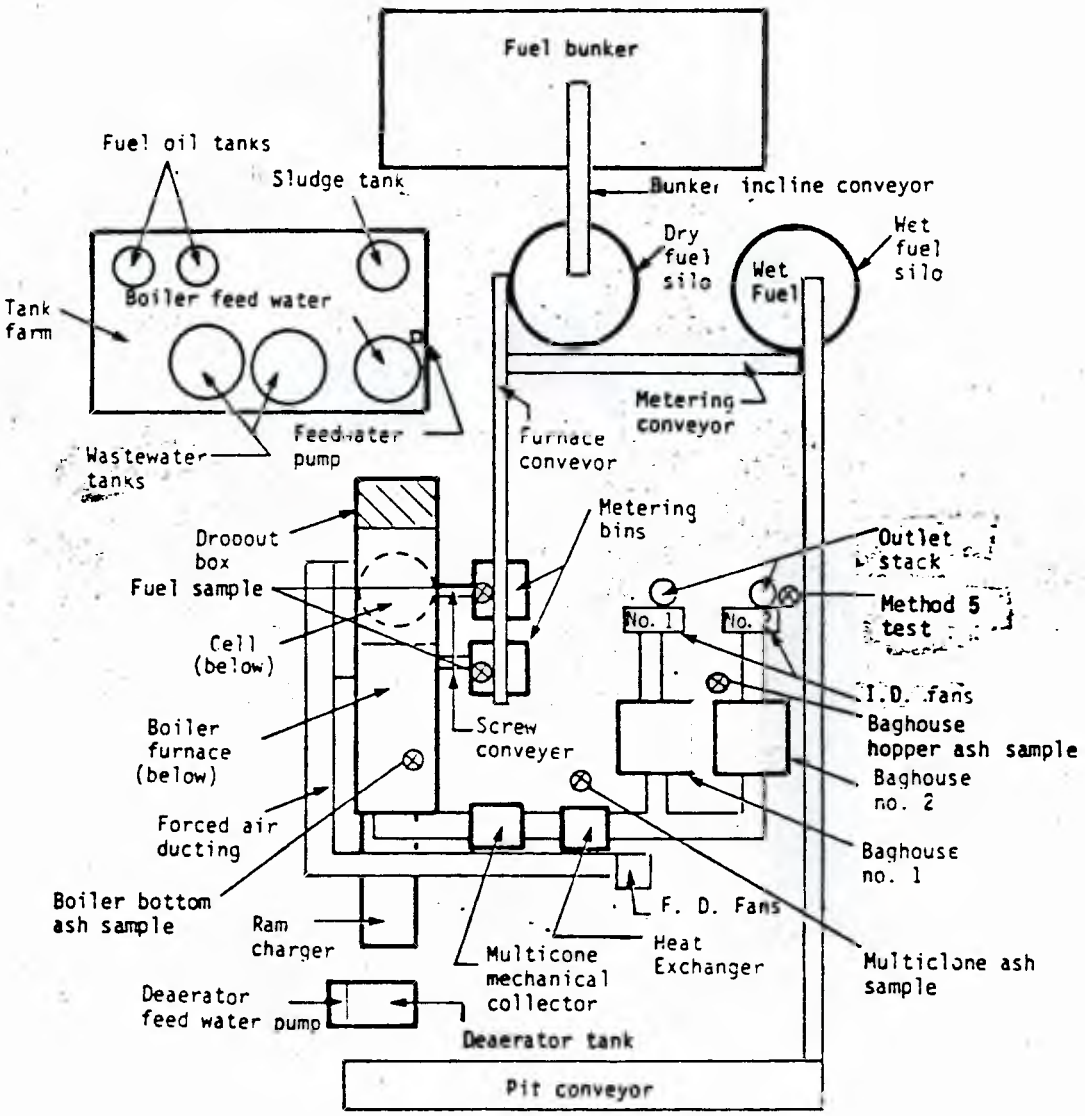

Figure 7. Schematic of boiler plant with sampling locations noted.

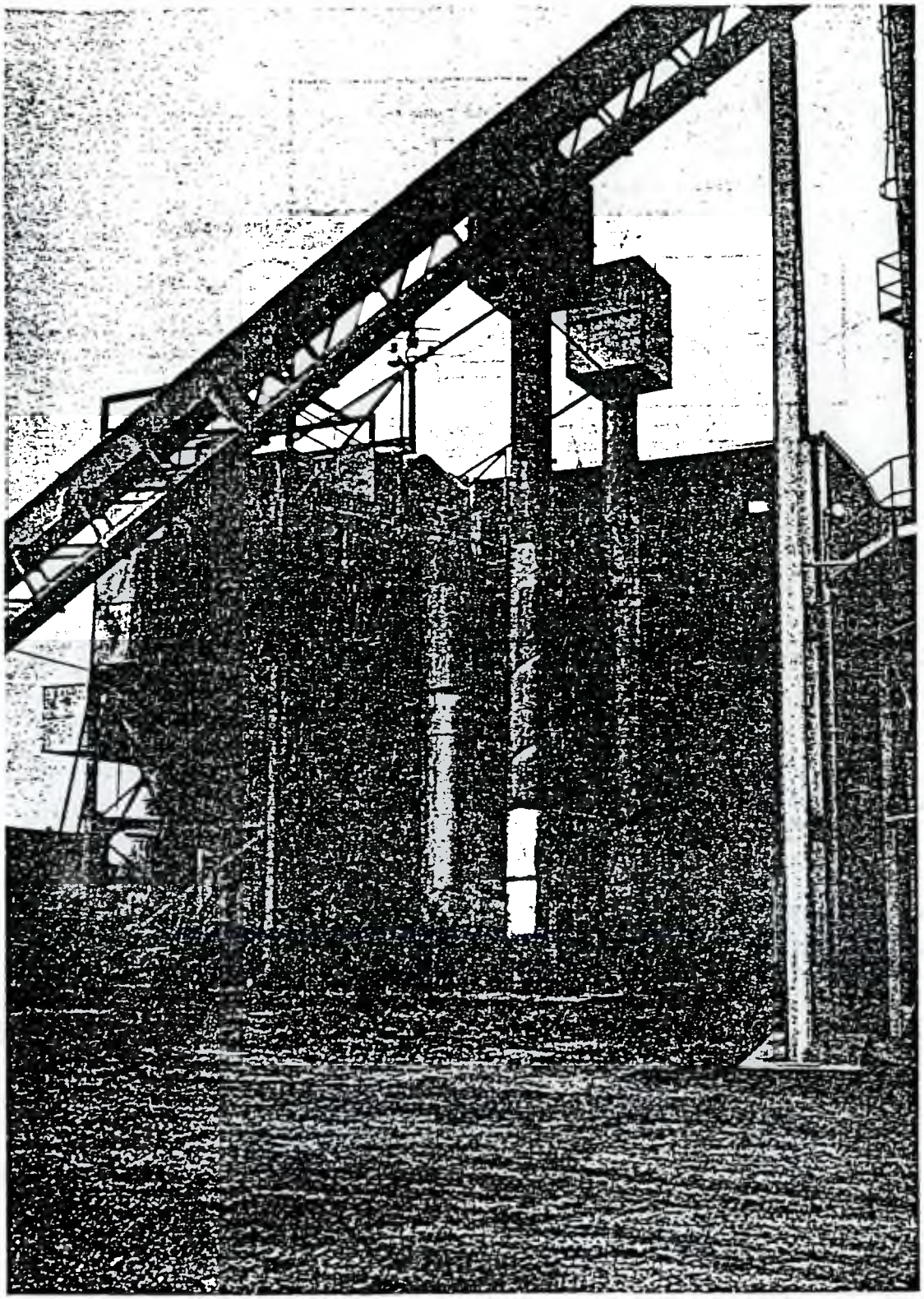

Figure 8. Feed conveyor, baghouse and boiler plant building.